Air Force Materiel Command

Developing, Fielding, and Sustaining America's Aerospace Force

Maintenance Engineering Study and Recommendations
22 October 01

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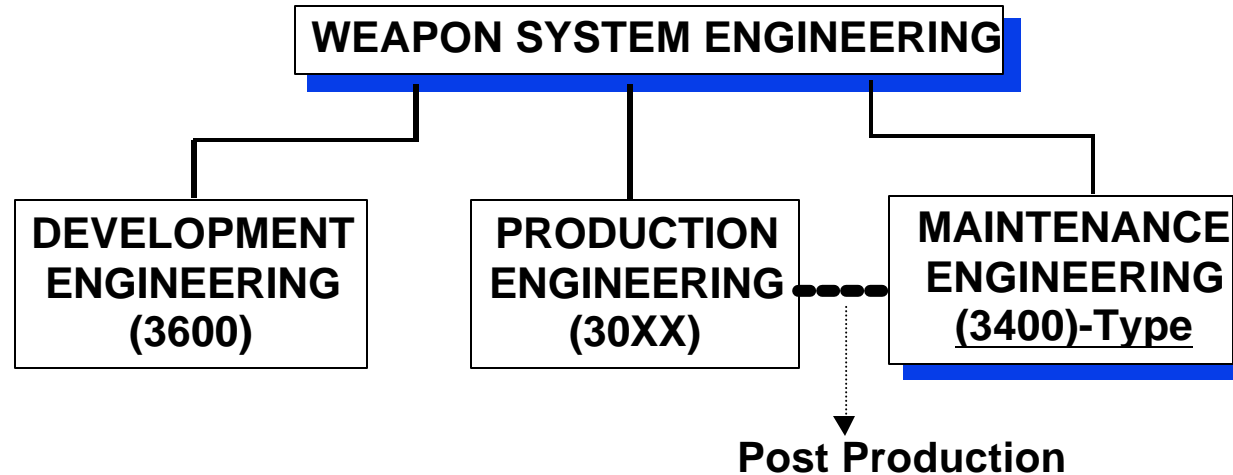*Integrity - Service - Excellence*

Background

- **ME IPT Chartered by HQ USAF/IL to Analyze Air Force ME Process and Make Recommendations for Improvement**
  - **Address Findings and Recommendations From the 10 Oct 00 AFIA Eagle Look Report, "The Sustaining Engineering Process"**
- **ME IPT Response met 1 Oct AF/IL Suspense**
  - **Identified Issues and 7 Recommendations**
  - **CC Letter Signed 21 Sept, AF/IL Briefed 24 Sept**
- **ME IPT Visited**
  - **4 Major Commands**
  - **3 Product Centers**
  - **3 Air Logistic Centers**

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Background

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                    │  WEAPON SYSTEM ENGINEERING      │
                    └─────────────────────────────────┘
            ┌────────────────┬──────────────────┐
┌───────────────┐   ┌───────────────┐   ┌───────────────┐
│ DEVELOPMENT   │   │ PRODUCTION    │   │ MAINTENANCE   │
│ ENGINEERING   │   │ ENGINEERING   │   │ ENGINEERING   │
│ (3600)        │   │ (30XX)        │   │ (3400)-Type   │
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                                 Post Production
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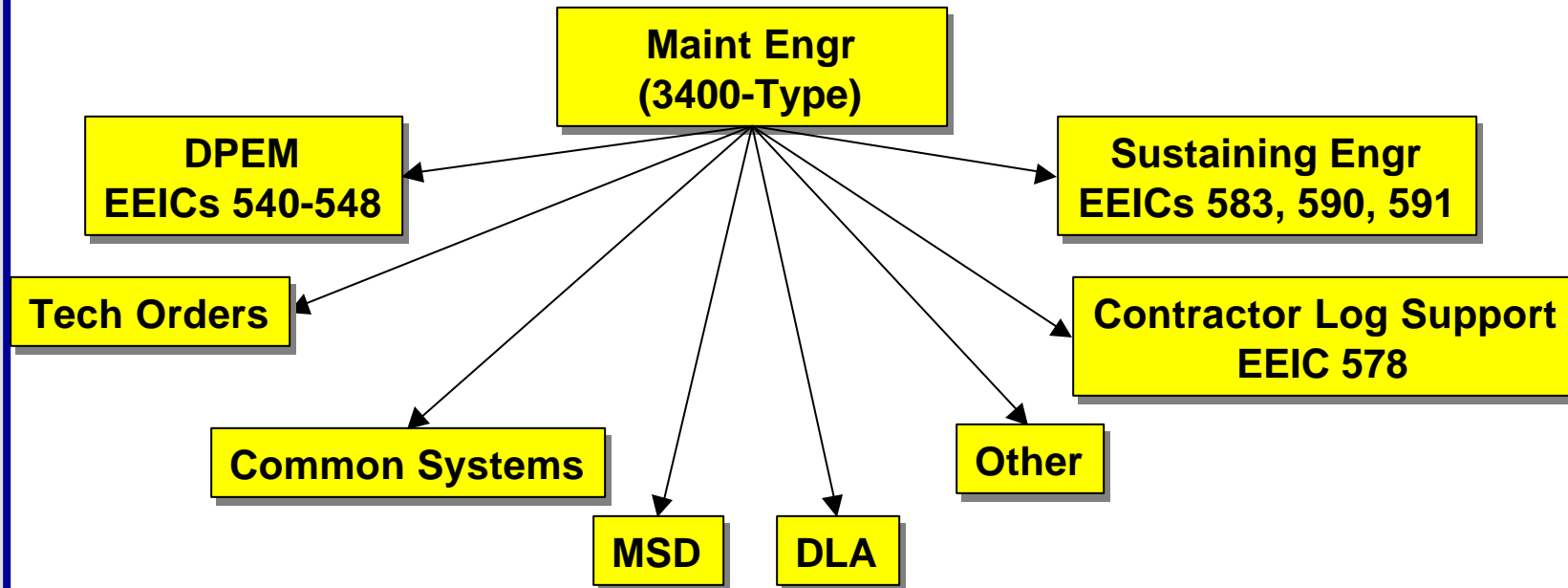
- **WSE: Application of Principles Required to Transform Military Requirements Into Operationally Suitable Hardware and Software Products**

- **Maintenance Engineering: Technical Efforts Required to Review, Assess, Define, and Resolve Technical or Supportability Deficiencies Revealed in Fielded Systems - Maintain OSS&E Baseline**

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Background

- **ME General Objective is to Sustain the Fielded System, Product, or Materiel to the Approved Specification Capability**

- **May Lead to Development And/or Production Engineering Efforts**
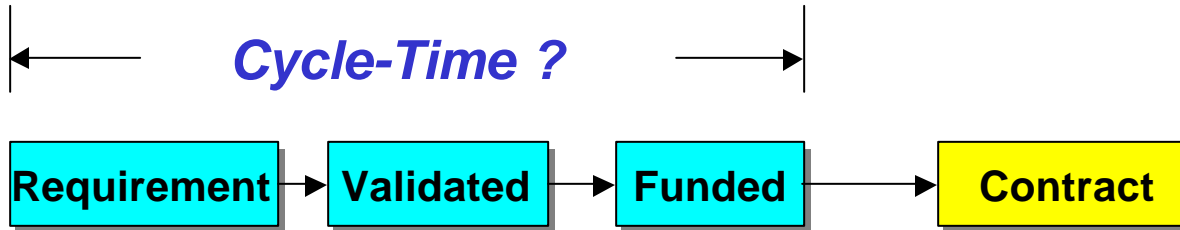
- **No AF-level Overarching Policy**

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                    │   Maint Engr    │
                    │  (3400-Type)    │
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Maint Engr (3400-Type) connects to:

- **DPEM EEICs 540-548**
- **Sustaining Engr EEICs 583, 590, 591**
- **Tech Orders**
- **Contractor Log Support EEIC 578**
- **Common Systems**
- **MSD**
- **DLA**
- **Other**

Background

Cycle-Time ?

Requirement → Validated → Funded → **Contract**

- **Contractor Sustainment: Average Cycle Time < 1 Week**
  - **90% Levels of Funding (Requirement/Funding)**
  - **Contract Vehicle in Place**
  - **Incentivized to Be Proactive**
- **Organic Sustainment:**
  - **3 Commands: Average Cycle Time 60 to 90 Days**
    - **Funding to Organic ME lower than Contractor-based**
    - **IDIQ Contracts Minimize Contract Times**
  - **1 Command: Average Cycle Time 2.5 Years Plus 3 to 9 Months Contract Time**
    - **Based on Priority of Task and Low ME Funding Levels**
  - **Correlation of funding level, Cycle Time, Process?** 5

Notional Funding Flow

SAF/FM
3400

MAJCOM **3400** — MAJCOM **3400** — MAJCOM **3400** — MAJCOM **3400** — AFMC **3400**

EEIC 540 — EEIC 578 — EEIC 583 — EEIC 594 — ACC EEIC — MSD

MSD → OC-ALC, OO-ALC, WR-ALC

PGM 1 — PGM 2 — PGM 3 — PGM 4 — PGM 5 — Other
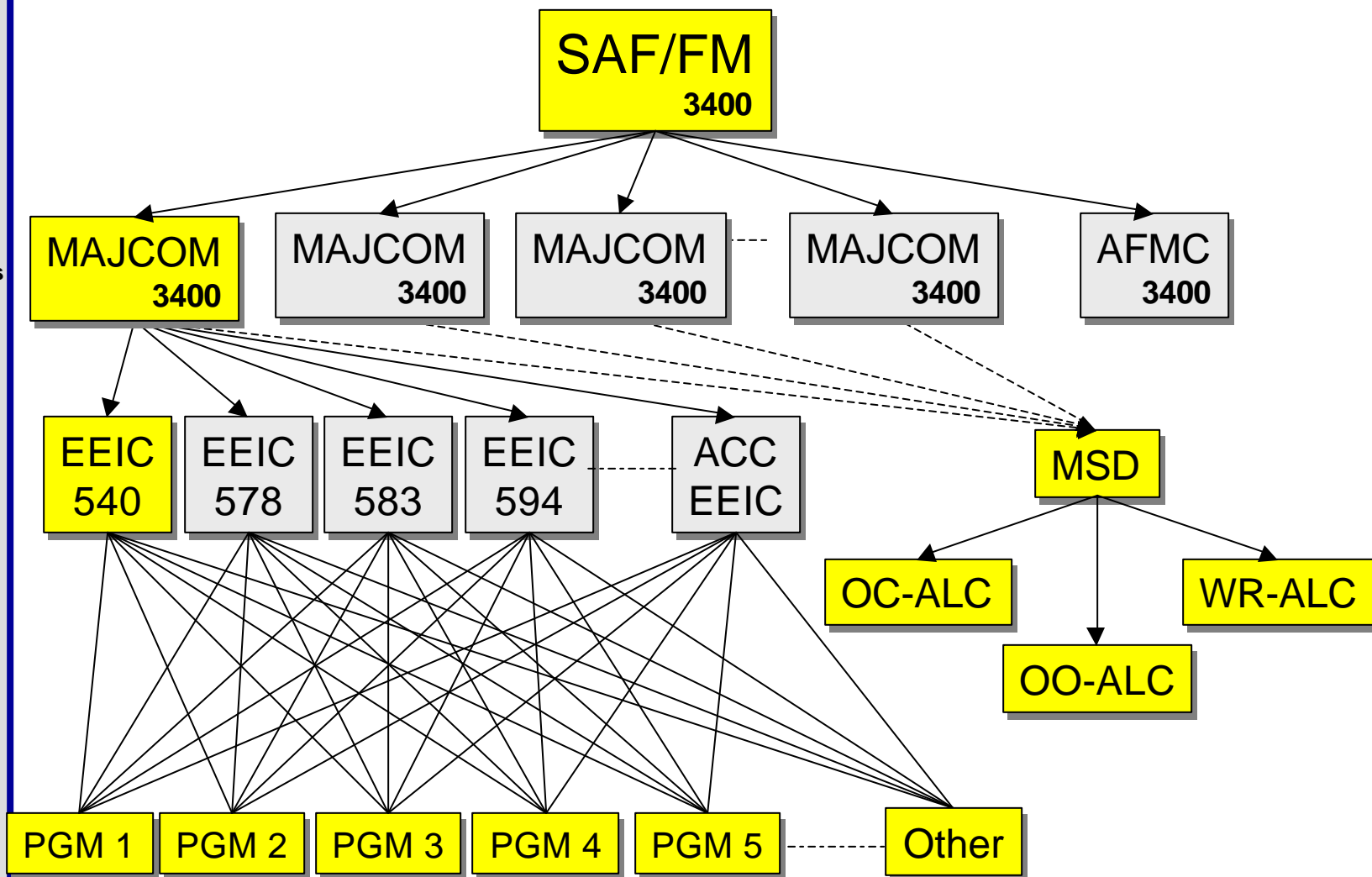
ME Related Issues/Root Causes

- **No Overarching ME Guidance/Processes**
- **Minimal FM Participation in Discerning Funding Suitability**
- **Processes drive dichotomy Between Organic and Commercial Sustainment Processes**
- **Poor Communications**
- **Lack of Trust**
- **Limited Formal Training**
- **No Process Metrics**
- **Protracted Requirements Brochure Process**

Approved Recommendations

- **1) ME Instruction Overarching Policy**
  - **Identifies Roles and Responsibilities**
  - **Forms the Basis for Development of Training**
  - **Establishes Top-level Requirements Development and Funding Process**
  - **Can Be Implemented Separately:**
    - **MOA/SLA Between MAJCOMs and Programs**
    - **Single/similar Sustainment Requirement Format**
    - **Program-based Reviews Instead of EEIC-based**
- **2) Migrate to Uniform Requirements Format**
  - **Consolidates Numerous EEIC-based Formats**

Approved Recommendations

- **3) Direct Program-based Sustainment Requirement Reviews**
  - **Focuses on Small Programs and "Homeless" Requirements**
  - **Refines Accuracy of Program Sustainment Budget Requirements**
- **4) ME Process MOA Between MAJCOMs and Programs**
  - **Directs Development and Coordination of Requirements QA Process**
  - **Establishes Roles and Responsibilities (Strengthen MAJCOM PEM)**
    - **Provides Program Advocacy to the MAJCOM by the MAJCOM**
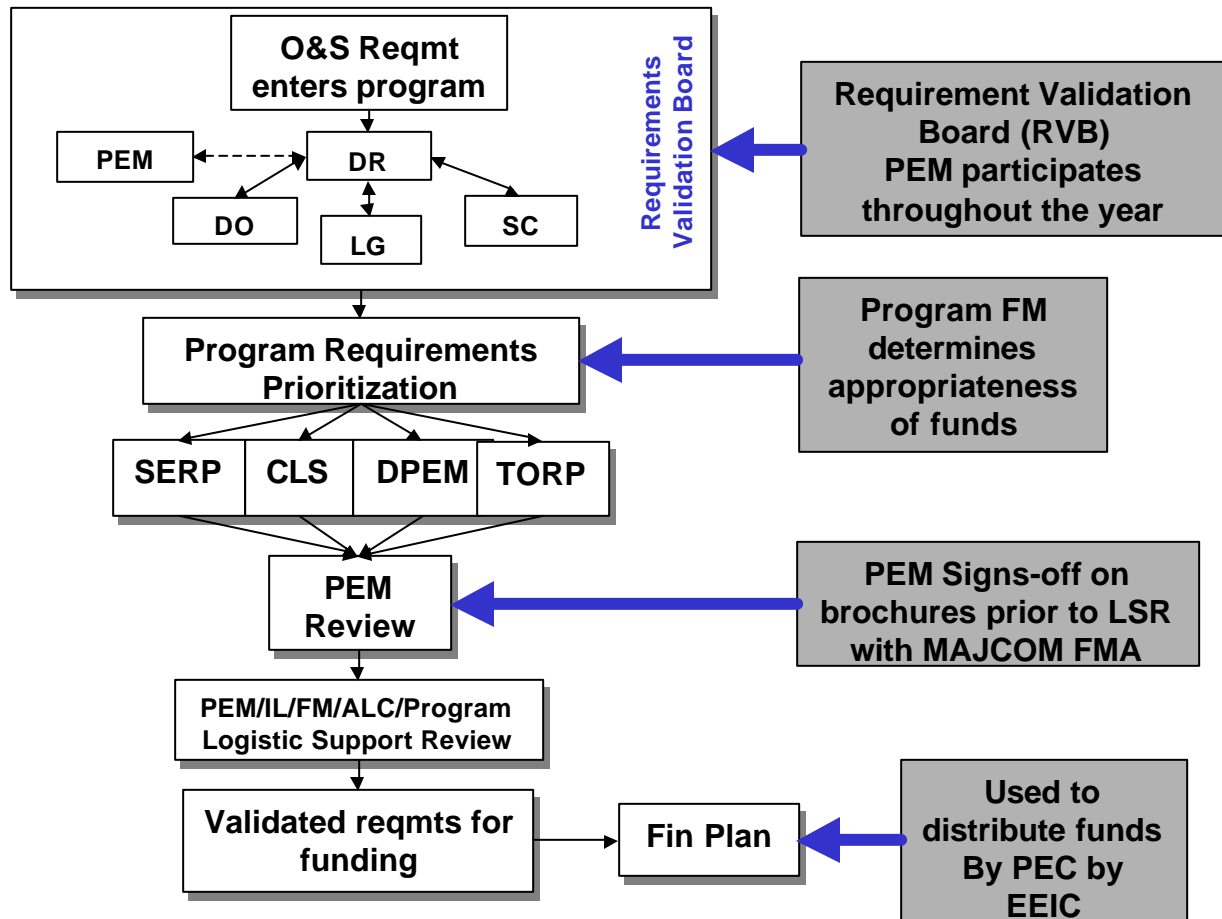
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Approved Recommendations

O&S Reqmt enters program

PEM — DR

DO · LG · SC

Requirements Validation Board

Requirement Validation Board (RVB) PEM participates throughout the year

Program Requirements Prioritization

Program FM determines appropriateness of funds

SERP · CLS · DPEM · TORP

PEM Review

PEM Signs-off on brochures prior to LSR with MAJCOM FMA

PEM/IL/FM/ALC/Program Logistic Support Review

Validated reqmts for funding → **Fin Plan**

Used to distribute funds By PEC by EEIC

REQUIREMENTS QA PROCESS

Approved Recommendations

Approved Recommendations
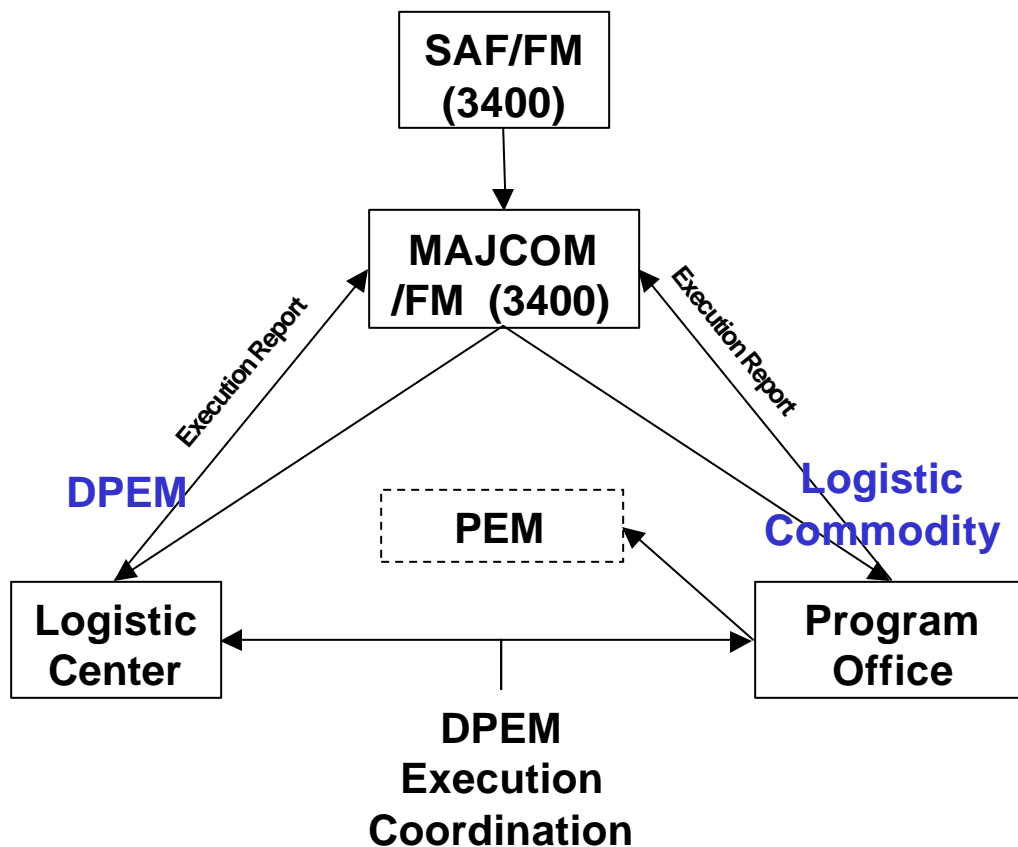
- **5) Establish Requirements Training**
  - **Train to Overarching Process, MOA/SLA, Requirement Formats**
  - **Applicable to All Parties Within Requirements Development and Execution Process**
  - **Provides Continuity in Manpower Turnover**
- **6) Metrics and Execution**
  - **Metrics Agreed to by MAJCOM and Program**
  - **Establish Correlation Between Funding Levels, System Availability and Capability Rates**
  - **Program Obligation and Execution Rates Tracked**
  - **Implemented Within MOA/SLA**

Summary

- **AFMC/CC and AF/IL Approved Adoption and Immediate Implementation of Items 1-6**
  - **ME IPT Scoping Task to Identify Resources Required to Accomplish Expected Tasker**
- **Recommendations matrixed to issues and root causes**
  - **Facilitate communication**
  - **Baseline and optimize support process**
  - **Optimize support for maintainer**
- **Good, Committed People Across the Board**
  - **Conflict Created by Deficient or Absent Processes Eliminated**